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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In Re Application of: EGNOR, Dianne E. et al

Group Art Unit: 2631

Serial No. 10/659,567

Examiner:

Filed: 09/10/2003

Atty. Dkt. No: D4661-US

FOR: PIPELINED TURBO MULTIUSER DETECTION

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*Debra A. Stengel*  
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TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT

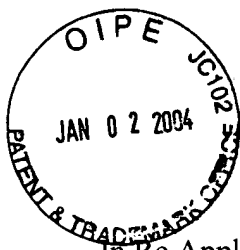
Transmitted herewith is the Applicant's Information Disclosure Statement, 1 sheet(s) of form PTO/SB/08a, 2 sheet(s) PTO/SB/08b, and 19 references and other information. Pursuant to 37 CFR 1.98 (a)(2)(i) applicant has not transmitted herewith copies of cited U.S. Patents and U.S. patent application publications as the above application was filed after June 30, 2003. Please enter in the above application and communicate in all related matters with the undersigned.

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Respectfully submitted,

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Neil F. Maloney, Reg. No. 42,833  
Andrew P. Cernota, Reg. No. 52,711  
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[X] Debra A. Stengel

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INFORMATION DISCLOSURE STATEMENT

Applicants submit this statement and the attached 1 sheet(s) of form PTO/SB/08a, 2 sheets PTO/SB/08b and 19 references and other information in accordance to the duty of disclosure under 37 C.F.R. §§1.56, 1.97, and 1.98, and requests consideration hereof. Pursuant to 37 CFR 1.98 (a)(2)(i) applicant has not transmitted herewith copies of cited U.S. Patents and U.S. patent application publications as the above application was filed after June 30, 2003.

Compliance with 37 C.F.R. §1.97: This Information Disclosure Statement is filed within three (3) months of the filing date of a National Application or before the mailing date of a first office action on the merits. No fee or certification is required.

Information Cited: The Applicants hereby make of record in the above-identified application, the information listed on the attached Forms PTO/SB/08a or PTO/SB/08b. The order of presentation of the references should not be construed as an indication of the importance of the reference. As all the references listed on attached Forms PTO/SB/08a or PTO/SB/08b are in English, no commentary is required.

Remarks: A copy of each reference, together with a listing on Forms PTO/SB/08a or PTO/SB/08b, is submitted herewith. Applicants respectfully request that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;

2. The enclosed form Forms PTO/SB/08a or PTO/SB/08b be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application; and

3. The citations for the information be printed on any patent which issues from this application.

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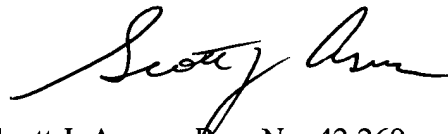
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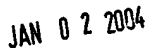
An early and favorable action is hereby requested.

Respectfully submitted,



Scott J. Asmus, Reg. No. 42,269  
Neil F. Maloney, Reg. No. 42,833  
Andrew P. Cernota, Reg. No. 52,711  
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Substitute for form 1449/PTO

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### **C mplete if Known**

Application Number	10/659 567
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Filing Date	09-10-2003
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First Named Inventor	EGNOR, et al.
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Art Unit

Examiner Name

Attorney Docket Number	D4661-US
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Sheet

of

1

Attorney Docket Number

D4661-US

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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> *Number <sup>4</sup> *Kind Code <sup>5</sup> (if known)				
		WO 01-22610 A1	03-29-2001	Interdigital Technology Corporation		

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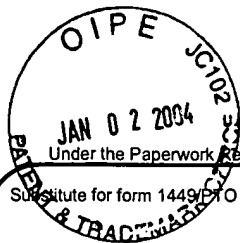
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	10/659,567
Filing Date	09-10-2003
First Named Inventor	EGNOR et al.
Art Unit	
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Attorney Docket Number	D4661-US

Sheet 1 of 2

### NON PATENT LITERATURE DOCUMENTS

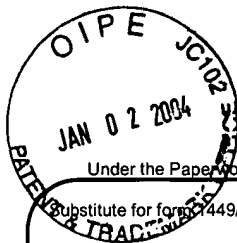
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		ZHANG, et al., Iterative Multiuser Detection for Turbo Coded CDMA in Gaussian and Non-Gaussian Impulsive Noise, Lehigh University, pp.1-19.	✓
		VERDU, Minimum Probability of Error for Asynchronous Gaussian Multiple-Access Channels, IEEE Transactions on Information Theory, Vol IT-32, Jan, 1986, pp85-96.	✓
		LUPAS, et al., Linear Multiuser Detectors for Synchronous Code-Division Multiple-Access Channels, IEEE Transactions on Information Theory, Vol 35, No. 1, Jan 1989, pp 123-136.	✓
		LUPAS, et al. Near-Far Resistance of Multiuser Detectors in Asynchronous Channels, IEEE Transactions on Communications, Vol. 38, No. 4, April 1990, pp 496-508.	✓
		ALEXANDER, et al. Iterative Multiuser Interface Reduction: Turbo CDMA., IEEE Transactions on Communications, Vol. 47, NO. 7, July 1999, pp.1008-1014.	✓
		ROBERTSON, et al. A Comparison of Optimal and Sub-Optimal MAP Decoding Algorithms Operating in the Log Domain, IEEE, 1995, pp. 1009-1013.	✓
		HAGENAUER, et al. A Viterbi Algorithm with Soft-Decision Outputs and its Applications., GlobeCom '89, IEEE, 1989, pp. 1680-1686.	✓
		POTTIE, et al. A Comparison of Reduced Complexity Decoding Algorithms for Trellis Codes, IEEE Journal on Selected areas in Communications, Vol 7, No. 9, December 1989, pp. 1369-1380	✓
		BERROU, et al. Near Shannon Limit Error-Correcting Coding and Decoding: Turbo -Codes(1), Proceeds ICC'93, IEEE 1993, pp.1064-1070.	✓
		BERROU, et al. Near Optimum Error Correcting Coding and Decoding: Turbo-Codes, IEEE Transaction on Communications, Vol. 44, No. 10, Oct.1996, pp. 1261-1271.	✓

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		Application Number	10/659,567
		Filing Date	09-10-2003
		First Named Inventor	EGNOR, et al.
		Art Unit	
		Examiner Name	
Sheet 2	of 2	Attorney Docket Number	D4661-US

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		WANG, et al., Low-Complexity MAP Decoding for Turbo Codes, IEE 2000, pp1035-1039	
		POOR, et al., Turbo Multiuser Detection: An Overview, IEEE 6th Int. Symp. on Spread Spectrum Tech. & Appli., Sept 6-8, 2000, pp 583-587.	
		WANG, et al., Iterative (Turbo) Soft Interference Cancellation and Decoding for Coded CDMA, IEEE Transactions on Communications, Vol. 47, No. 7, July 1999, PP1046-1061.	
		CHAN et al., A Class of Asymptotically Optimum Iterated-Decision Multiuser Detectors, Proc. Int. Conf. Acoust., Speech, Signal Processing (ICASSP-2001), Salt Lake, UT, May 2001	
		MOHER, An Iterative Multiuser Decoder for Near-Capacity Communications, IEEE Transactions on Communications, Vol 46, No. 7, July 1998, pp. 870-880.	
		DAS et al., Computationally Efficient Iterative Multiuser Detection and Decoding, IEEE, 1998, pp. 631-634.	
		HERZOG et al., Iterative Decoding and Despreading improves CDMA- Systems using M-ary Orthogonal Modulation and FEC, IEEE, 1997, pp 909-913.	
		VARANSI et al, Multistage Detection in Asynchronous Code-Division Multiple Access Communications, IEEE Transactions on Communications, Vol. 38 No. 4, April 1990, pp. 509-519.	

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